

## **REMARKS**

Claims 19 and 20 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 19 and 20 are further amended herein to clarify the grammar of the claims, and Applicant respectfully traverses this rejection at least in light of these amendments. The Examiner can see that claim 19 now better clarifies that the crystal grains of the magnetic crystal layer are separated from one another at the grain boundaries, and that these crystal grains are made of cobalt and platinum, with chromium atoms diffusing along the grain boundary. Claim 20 further defines that the chromium atoms along the grain boundary form into a wall. The Examiner should find clear support for this clarifying language on pages 12-13 of the present Specification, and accompanying Figs. 10-11. Accordingly, reconsideration and withdrawal of the Section 112 rejection are respectfully traversed in light of these amendments.

Claims 1-4, 6, and 19-20 stand rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over, Chen et al. (U.S. 5,846,648). With respect to claims 2-3 of the present invention, these claims have been cancelled herein, rendering the rejection thereto now moot. With respect to the remaining claims, Applicant respectfully traverses the rejection because Chen does not teach or suggest metallic islands having all of the features and limitations recited in independent claim 1 of the present invention, as amended.

For clarification purposes, many of the features from cancelled claims 2-3 have been incorporated into independent claim 1 to better describe the different elements of the

claim. Specifically, claim 1 now more clearly defines the metallic islands of the present invention as including atoms of at least one metallic element and molecules of a compound that are alternatively selected from an oxide and a nitride, and also consist of elements different from the metallic element that also forms the islands. This clarifying language should better demonstrate how the Chen reference cannot read upon the present invention. Although Chen appears, at first glance, to teach similar elements to those of the present invention, Chen does not distribute or locate the elements as defined by the present invention.

For example, regarding the subject matter that originally appeared in claims 3 and 4 of the present invention, the Examiner asserts that “Chen discloses that the islands may include an oxide or nitride metallic compound.” (Page 5, lines 3-4 of the outstanding Office Action). This assertion is not correct as now applied to claim 1 of the present invention. Although the Examiner is correct that Chen teaches to use reactive Ti in an environment of residual oxygen or nitrogen gas (col. 18, line 60 to col. 19, line 1), Chen does not teach that any oxide or nitride that is formed from the reaction with Ti will become part of the metallic islands themselves.

Chen specifically teaches that the oxide/nitride will form “at the grain boundary” of the individual grains 74, and therefore the oxide/nitride would not be included as a portion of the metallic islands themselves. Again, the Examiner has asserted that the individual grains 74, and not the grain boundaries between the grains, are analogous to the metallic islands of the present invention. Accordingly, Chen is significantly different from claim 1 of the present invention in this respect.

Chen is further different from the present invention because the oxide/nitride formed from the reaction with Ti will necessarily include Ti as an element of the oxide/nitride. In contrast, the present invention clearly features that the oxide/nitride that comprises part of the metallic islands consists of elements that are different from the metallic element that also comprises the metallic islands. Chen could not read upon these limitations. Ti will necessarily be both the metallic element of Chen's grains 74, as well as an element in the oxide/nitride formed at the grain boundaries of the crystal grains. Accordingly, the rejection of claim 1 based on Chen, as well as its dependent claims, is further traversed for at least these reasons as well.

Applicant further traverses the individual rejection of claim 4 of the present invention. On page 5 of the outstanding Office Action (second full paragraph), the Examiner asserts that Chen teaches segregant materials that are analogous to the specific nitrides and oxides featured in claim 4. The portion of Chen relied upon by the Examiner, however, does not teach that the cited segregant materials are formed as part of the seed layer directly on the substrate in Chen. (See col. 11, lines 57-62). Chen appears to describe that its segregant materials are only deposited together with the magnetic materials of the upper layers, and not the seed layer on the substrate. In contrast, claim 4 of the present invention specifically defines that the featured oxides and nitrides comprise a part of the metallic islands themselves, and not merely segregant materials deposited on the upper layers above the islands. Accordingly, the rejection of claim 4 is also traversed for at least these reasons.

Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Chen, and further in view of Bertero et al. (U.S. 6,150,015). Applicant respectfully traverses this rejection for at least the reasons discussed above in traversing the rejection of independent claim 1 based only on the Chen reference. Claim 5 indirectly depends from independent claim 1, and therefore includes all of the features of its respective base claims, plus additional features. Applicant further traverses this rejection as follows.

The Examiner's stated rationale for combining Chen with Bertero is based, at least in part, on the Examiner's assertion that "Chen discloses that the nucleation sites may be formed of any material that allows for epitaxial growth of the Co-based recording layer (column 11, lines 10-22)." Applicant submits though, that this cited portion of the Chen reference does not actually discuss the nucleation sites, as asserted by the Examiner. The cited portion appears to refer only to the intermediate layer 24 above the cited "nucleation sites."

The proposed combination of Chen with Bertero is also inappropriate in relation to the present invention because there is no actual teaching or suggestion within the references to make the actual combination proposed. The Examiner asserts that it would be obvious, from Chen's inclusion of platinum atoms in the magnetic layer, to also include platinum as the "ideal material choice" for the nucleation layer. However, to make the modification proposed by the Examiner, one skilled in the art would not merely *add* platinum to Chen's seed layer, as suggested by the Examiner, but instead one skilled in the art would have to replace Chen's Ti grains (or Cr-based alloy) with the platinum atoms. There is no

teaching or suggestion in Chen to support this substitution of Ti with Pt, however. Chen describes at length why Ti is selected for the seed layer, and never suggests that Pt will accomplish the same purposes. Accordingly, the proposed combination requires much more than the mere “selection of a known material on the basis of its suitability.”

New claim 21 has been added to recite other combinations of the present invention. Specifically, the Examiner can see that claim 21 depends from claim 5, and further recites that the at least one metallic element further includes cobalt. Accordingly, claim 21 should be in condition for allowance for at least the reasons discussed above with respect to claim 5, and because neither of the cited prior art references teaches or suggests to further include cobalt as a metallic element of the individual metallic islands. Entry, consideration on the merits, and allowance of new claim 21 are respectfully requested.

Applicant submits that all of the amendments to the claims herein are one of grammatical clarifications, incorporation of subject matter from the dependent claims into an independent claim, and the resubmission of subject matter for which the Examiner has already given full consideration. Accordingly, the Examiner should find that all of these amendments are both appropriate and necessary for entry even after final rejection. Additionally, with respect to new claim 21, more claims have been cancelled herein (claims 2 and 3) than have been added in this Amendment.

For all of the foregoing reasons, Applicant submits that this Application, including claims 1, 4-6, and 19-21, is in condition for allowance, which is respectfully requested. The Examiner is invited to again contact the undersigned attorney if a further interview would help expedite prosecution.

Respectfully submitted,

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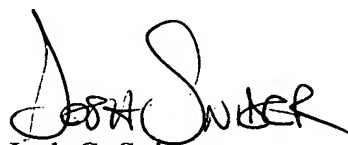
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By

A handwritten signature in black ink, appearing to read "Josh C. Snider". The signature is stylized with a large, looping "J" and "S".

Josh C. Snider

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